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ABSTRACT

This study is designed to compare the school normative climate of white and black urban elementary schools relatively matched on socioeconomic status (SES) and achievement. With this design the researcher sought to: (1) find if there are differences in normative climate between white and black schools; and (2) generate further tentative insight into variables which may affect the differential academic performance of students in white and black schools. A nonrandom sample of schools was selected through the aid of the Michigan Department of Education State Assessment Program. The department provided aggregate scores of all fourth-grade students, by school, on achievement and SES, as measured by a questionnaire of family consumption patterns, education, mobility, and student's future aspirations. Data were collected in 1970-71 via questionnaires from 16 schools with a total population of 2,743. The 1970-71 fifth-grade students whose achievement and SES data were collected by the State department in 1969-70 were the primary student sample in each school. An additional sample of fourth- and sixth-grade students in each school was included to obtain a wider range of student reports. Measures of school climate were sociopsychological scales and factors derived from the student questionnaire. (Author/JM)

A COMPARATIVE STUDY OF SCHOOL CLIMATE IN WHITE AND BLACK ELEMENTARY SCHOOLS

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A central aspect of the education problem is the low rate of academic success among Puerto Ricans, American-Indians, Mexican Americans, and Blacks (Coleman, et al, 1966). Thus far, educational innovations such as compensatory education have not been successful. If history provides any clues, performance contracting, voucher systems, and other proposed innovations will fail as their predecessors did. Busing also is held in doubt as a possible education cureall (Armour, 1972). Alan Wilson (1969), in his study of race/social class, found that the social class mix of the school was more important than racial balance. Therefore, busing solely for desegregation may not improve education.

The lack of educational success among minorities, especially Blacks, has prompted numerous research endeavors. These efforts have sought generally, to explain the differences in academic performance between Whites and Blacks. Research has focused on individual variables, family, neighborhood, and somewhat on the school social environment (climate). Mainly, the research has centered on race and/or socioeconomic-status-related factors to account for the achievement differential between Blacks and Whites. The high degree of relationships between socioeconomic status and achievement is an area of considerable research activity (Sexton, 1961; Herriott and

St. John, 1966; Sewell and Shah, 1967; Jencks, 1968; Coleman, et al, 1966; and Mayeske, et al 1969). Schools with normal or high achievement are usually middle class or better, whereas schools with low achievement usually indicate low socioeconomic status. Due to economic inconsistencies within America, the greater proportion of Blacks are of low socioeconomic status, whereas the greater proportion of whites are middle class.

However, the socioeconomic status and achievement relationship does not always hold true. It is possible to find low SES Black schools with high achievement and high SES White schools with low achievement. Situations such as this have prompted researchers such as Halpin and Croft (1959), Coleman (1961 & 1966), Michael (1961), Wilson (1969), McDill, et al (1967), and Brookover, et al, (1973), to examine school climate.

SCHOOL CLIMATE

In this paper, the concept of school climate will be viewed from a symbolic interaction frame of reference. David Johnson (1970: 231), illustrates the theoretical roots of this concept succinctly, as utilized in this study:

> Education, from a social-psychological point of view, is carried on in an organized social environment largely through interpersonal processes. How a student responds in the classroom, for example, will depend upon such factors as the organizational structure and climate of the school, the nature of the student's goals and the goals of his teacher, and the reaction he thinks his peers, parents, and friends will have to his behavior. It is primarily within the extended teacher-student and student-student interaction in the classroom that education takes place.

To aid conceptualization of school climate as delineated, the following mental picture is suggested. The interaction of principal,

teachers, and students within the school produces an atmosphere that will enhance or reduce academic performance. Parents also provide input into the school in two ways. First, the most often discussed and empirically validated, is the parents' role as significant others of the student (Brookover, et al, 1967). Secondly, often alluded to in a tangential manner in research, but not studied specifically, is value consensus between the school and parents.[1] Basically, this discussion depicts the construct of school climate as a self-other phenomenon (symbolic interaction) in which the participants are all affecting and being affected by the other constituency. A school in which the parents, students, teachers, and principal are supportive of achievement will, possibly, have a climate which is conducive to optimal student performance.

PURPOSE

The relationship of school climate to achievement has been approached from several perspectives. Coleman (1961) found that academic achievement received varying amounts of reward or punishment in schools. Therefore, it is possible to have a school climate that supports achievement. Davis (1961), explained that school climate press for college attendance is contingent upon socioeconomic status in poorer school climates (greater proportion of lower class), whereas ability is the crucial factor in better school climate (greater proportion of middle class). Insights into possible climate differences between Black and White schools were indicated by Coleman (1966). Sense of control and self-concept were found to be significantly related to achievement. However, the manifestation

differed in that White and/or advantaged children's achievement, or lack of it, was related to self-concept, whereas Black and/or disadvantaged children's achievement was related to sense of control. The above results are especially meaningful in regard to Black-White school climate differential because Coleman also found that schools were for the most part racially segregated, which also indicates segregation by social class, which was most pronounced at the elementary level. Other research by Wilson (1969), and further analysis of the Coleman data seemingly indicate possibly different climate configurations in Black and White schools (Cohen et al., 1972). McDill, Meyers, and Rigsby identified social climate variables which accounted for most of the variance in achievement usually attributed to socioeconomic composition (McDill et al., 1967). Given the above cited literature indicating the possibility of school climate, racial differentials in school climate, and the possible effects beyond socioeconomic status, this study of school climate differences in elementary schools seems warranted, especially since research on elementary school climate is virtually non-existent (Johnson, 1970).

This study is designed to compare the school normative climate of White and Black urban elementary schools relatively matched on socioeconomic status and achievement.[2] With this design the researcher sought to: (1) find if there are differences in normative climate between White and Black schools; and (2) generate further tentative insight into variables which may affect the differential academic performance of students in White and Black schools.

METHODOLOGY

A non-random sample of schools was selected through the aid of the Michigan Department of Education State Assessment Program. The Department of Education provided aggregate scores of all fourth-grade students, by school, on achievement as measured by a composite achievement test, and SES, as measured by a questionnaire of family consumption patterns, education, mobility, and student's future aspirations/expectations.

The design of this research utilized several compromises which were necessary due to the realities of the Michigan elementary school population. These realities were as follows: (1) the small number of Black high-achieving schools in the population;[3] (2) little Black-White similarity in socioeconomic status and achievement levels; and (3) difficulty in receiving data collection permission (Henderson, 1974). Given the parameters of the population, data were collected in 1970-71 via questionnaires from a total of sixteen schools with N=2,743. Criteria for selection was on the basis of the previous year's (1969-70 school year) assessment information. The 1970-71 fifth-grade students whose achievement and SES data were collected by the State department in 1969-70, were the primary student sample in each school. An additional sample of fourth- and sixth-grade students in each school was included to obtain a wider range of student reports. [Table 1 about here]

High achievement level was defined by a score of 50-and-above, while scores lower than 50 were considered low achievement. Socio-economic status was classified in the same way but a score of 49

was the breaking point. Table 2 illustrates the classification of schools.

[Table 2 about here]

The comparability between White and Black schools was only relative at best. However, given the elementary school population in Michigan, this seemed to be one method to begin exploratory work in this area. Along with the absence of a rigorous design is the sacrifice of generalizability.

SCHOOL CLIMATE VARIABLES

Measures of school climate were social psychological scales and factors derived from the student questionnaire. The four factors are composed of most of the the same items which make up the ten scales. Rather than opt for scales or factors in this research, the decision was made to utilize both types of variables for the following reasons:

1. A major intent of this research was to examine the data in various ways;
2. The presentation of both scale and factor scores will perhaps suggest varied starting points in analysis of future research.

SCALES

The scales[4] used in this analysis were taken from related studies or *a priori* structured by the research team. These scales are as follows:

Reported student press for competition or individual performance. This construct is designed to measure the perceived press of students in regard to individual competition within the school setting.

Importance of student self-identity or role. This scale is designed to measure the "relative degree of investment placed in the identity student, for self esteem maintenance." (Gigliotti, 1969).

Academic norms of school. This refers to the demand for academic

performance, as reported by the students.

Sense of Control. Basically this scale measures the child's feeling of personal efficacy over his environment in relationship to his school performance. It is based upon the work of James Coleman, et al. (1966: 288) who describes it in the following manner:

> If a child feels that his environment is capricious, or beyond his ability to alter, then he may conclude that attempts to affect it are not worthwhile and stop trying.

Self-concept of academic ability. This is a scale designed to measure the "evaluating definitions which an individual holds for himself in respect to his ability to achieve in academic tasks in general, as compared with others in his school class" (Brookover, et al., 1967).

Perceived evaluations and expectations. These scales are designed to measure the perceived evaluations and expectations of best friends (peers), teachers, parents, and principals. The dimensions of evaluations and expectations are defined by Auer (1971: 53), and Brookover, et al. (1967: 60) respectively as follows:

> Perceived evaluation is defined as evaluating definitions which an individual perceives another person holds of him in respect to his ability in academic tasks in general as compared with others in his school class.

> Perceived expectation is defined as expectation which an individual perceives another person holds of him in respect to academic tasks as compared with others in his school class.

Reported teacher press for competition or individual performance. These items are designed to measure the teacher's press for competition or individual performance in school, as reported by students.

FACTORS

A varimax factor analysis[5] was applied to 63 attitudinal items from the student questionnaire, forming factors on the basis of the responses of students considered as individuals (Schneider, 1973). The four factors

which emerged from the student data were identified by Schneider (1973) as: (1) student perceptions of the present evaluations-expectations in their school social system; (2) student perceptions of the future evaluations-expectations in their school social system; (3) Student perceptions of feelings of futility permeating the social system of the school; and (4) student perceptions of thenorms stressing academic achievement in their school and social system.

Factor 1. Student Perceived Present Evaluations-Expectations. This factor contained items concerning the respondents' perceptions of the expectations-evaluations of "others" (parents, teachers, friends) and the students' "self-concept of academic ability" from the present through the completion of high school.

Factor 2. Student Perceived Future Evaluations-Expectations. This factor was the future-oriented counterpart of Factor 1. Basically it consisted of items concerning the students' perception of "others'" (parents, teacher, friends) assessment of future academic accomplishments. Another aspect of this factor involved the students' "self-concept of academic ability" and self-evaluation regarding college attendance and success.

Factor 3. Student Reported Sense of Futility. This factor contains the items which make up the "sense of control" questions used by Coleman (1966). Other items revolve around students' perception of teachers' and other students' feelings of hopelessness or indifference about academic achievement.

Factor 4. Student Perception of School Academic Norms. Items loading high on this factor concerned students' perceptions of pressure for academic achievement by members of school social system and school bureaucracy.

A particularly interesting aspect of this factor is the students' perceived nexus of the principal's evaluation-expectations and the general normative academic push in the school environment. More specifically, the principal is perceived as the most crucial "significant other" in the school climate. Other items involve the amount of student perceived competition-cooperation within the environment and the reported and perceived importance of the student role.

Analysis

Responses to each item of the respective scales were combined to form scale scores for each individual within a school. In those instances where all responses (within a scale item) or items within the scale were not in the same direction, linear transformations were performed to expedite analysis. School scale scores were obtained by calculating the mean of the student scale scores for each school. If a respondent omitted an item, the mean of the other items within the scale was substituted. If all items within a scale were omitted, the respondent was dropped. Factor scores were generated for each student. These students' factor scores were then utilized to produce school mean scores (Schneider, 1973).

Multivariate analysis of variance was employed to examine the climate variable difference between Black and White schools. Rationale for this technique was based on two aspects (McCall, 1970):

(1) multivariate procedures ask somewhat broader questions than univariate analysis and are more powerful;

(2) when several variables possessing psychological cohesiveness are examined, multivariate analysis is more appropriate than multiple univariate tests.

Small sample size, and consequently few degrees of freedom, prevented

the multivariate testing of all the mean school scale and factor scores in concert. Therefore, these three groups of variables were analyzed separately. [Table 3 about here]

The following rationale was used in assigning the variables to the three groups shown in Table 3:

(1) Self-concept of Academic Ability and the Perceived Expectations and Evaluations were grouped together due to the previous research illustrating the reciprocating effect of Perceived Expectations and Evaluations upon each other (Brookover, et al., 1965);

(2) the next group of variables was grouped together on a theoretical basis, because all seemed to yield either individual or group indices that may influence normative patterns. These individual or group measures, in turn, could perhaps facilitate a school normative climate that could affect achievement;

(3) this variable group contains the factors obtained from varimax analysis of the student questions.

Findings

The first step of the multivariate analysis reported in Tables 4 and 5 revealed the absence of interaction effects. [Tables 4 and 5 about here]

The absence of significant interaction allows testing for the main effect of race to be interpreted without accounting for possible confounding effects. An examination of Table 6 illustrates that the multivariate F-test is significant ($p \leq .05$) for all variable groups. [Table 6 about here]

Because of these significant differences between Black and White schools, univariate F ratios were examined to determine which contributed to the overall group multivariate significance. The results are reported in Tables 7, 8, and 9. [Tables 7, 8, and 9 about here]

An examination of the univariate F ratios on each of the dependent measures associated with the significant multivariate F ratios reveals the following scales as significant univariates: Reported Teacher Press for Competition, Perceived Peer and Teacher Expectations and Evaluations, and Self-concept of Academic Ability. The least square estimate of effects gave the direction and estimated magnitude of the dependent variable. An examination of the univariate F ratios on each of the dependent measures associated with the significant multivariate F ratios reveals the following factors as significant univariates: Student Perceived Present Evaluations-Expectations, and Student Reported Sense of Futility. [Table 10 about here]

Table 10 gives the least squares estimate of the univariates which were significant. It indicates that Black schools scored higher on all scales (Self-concept of Academic Ability, Perceived Peer Expectations and Evaluation, Reported Teacher Press for Competition, and Perceived Teacher Expectations and Evaluations) than White schools. Factors revealed White schools scored higher on Student Perceived Present Evaluations-Expectations than did Black schools and Black schools scored higher on Student Sense of Futility than did White schools.

DISCUSSION AND IMPLICATIONS

This analysis was an attempt to investigate whether social-psychological climate differs between White urban and Black urban elementary schools. This research provides a beginning in an area where little work has been done. For example, variables which are identified as being significantly different between Black and White schools can be investigated to see whether they have any connections to achievement differential between White and Black schools.

A variable which contributed heavily to the significant multivariate

test of Variable Group A is Teacher Press for Competition. Black schools scored highest on this scale, which may mean that students in Black schools perceive the teacher to emphasize competition among the students. Tenable suggestions concerning the relation of this to the achievement differential between White and Black schools are as follows:

(1) teachers in Black schools, due to school practices such as tracking (ability grouping), systematically "cream off and cool out" students. Instead of the normative pattern of the school expecting almost all students to succeed, only a "chosen few" are expected to succeed (Rist, 1970);

(2) when students are encouraged to engage in excessive competition rather than coöperative ventures, the interaction between them may be detrimental to a normative system conducive to maximal achievement for all students (Deutsch, 1949; Haines and McKeachie, 1967; and Julian and Perry, 1967).

A significant univariate result was also obtained for Self-Concept of Academic Ability. This variable was the most powerful contributor to the overall significant multivariate test of Variable Group B, with the Black schools scoring higher on this scale than White schools. This suggests that Self-Concept of Academic Ability of students in these Black elementary schools emerges in a relatively segregated Black reference group in which lower academic performance is the standard against which students assess their ability. Therefore this high self-concept may be inflated (Rosenberg and Simmons, 1971).

A significant variable in the univariate testing was Perceived Peer Expectations and Evaluations. Parsons (1959), Coleman (1961, 1966), Wilson (1969), and Kerckhoff (1972), all speak of the crucial role peers play in the school social systems. Peers can either facilitate or mitigate against school achievement. Since Black schools scored highest on this scale, a possible

implication is that the normative system of peers is very strong in Black schools, but perhaps does not support achievement.

The Perceived Teacher Expectations and Evaluations Scale was also significant in the univariate testing. Black schools scored highest on this scale which seeks to measure the self-fulfilling prophecy phenomenon in regard to achievement (Rosenthal and Jacobson, 1969). However, the supposed concomitant phenomenon of academic achievement is not present. A tenable implication from this perspective is that students in Black schools may, in fact, have such perceptions but the teachers may expect and/or evaluate student performance by standards which are lower than national or state norms.

A particularly enlightening phase of this analysis were the factors which contributed to the significant multivariate test of Variable Group C. White schools' factor scores were higher on Student Perceived Present Evaluations-Expectations and Black schools' factor scores were higher on Student Reported Sense of Futility. This may explain some of the usual achievement differential between White and Black schools.

1. When students in Black schools perceive that parents, teachers, and friends are assessing them lower and expect less of them than those attending White schools, performance is likely to follow expectations.

2. The higher mean factor score in Black schools on Student Reported Sense of Futility is noteworthy. One aspect of this factor is the student perceptions of their efficacy within the social system. Another aspect are teachers' and other students' feelings of hopelessness or lack of caring about academic achievement within the school social system.

An examination of these results highlights the possible importance of Student Reported Sense of Futility, and Student Perceived Present Evaluations-

Expectations and Student Reported Sense of Futility are significant predictors of achievement in all schools (Schneider, 1973). Further exploration into the school climate differences between Black and White schools and the possible relationship to the achievement gap between White and Black schools is warranted.

FOOTNOTES

[1] This question of value consensus (school-community nexus) will become more important as the crescendo in regards to community control continues. Basically, in the middle class districts where academic achievement is present, the values of the school and community are congruent usually on the means and almost always on the end product of the education process. However, in some Black and lower class White distirets, especially where achievement is not satisfactory or declining, the mean and/or the end product of the education process may be viewed quite differently by the community and the school.

[2] Relative is used to depict the disparity in achievement levels and socioeconomic status between Black and White elementary schools. How this problem was managed will be explained in the section on design.

[3] If strict classification is used, there are only two Black, high-achieveing schools. However, one Black school was classified as high-achieveing with a state assessment score of 49.6 (50 and above was considered high-achieving).

[4] The reliability of these scales was examined by Hoyt's analysis of variance procedures. This gives the percentage of variance in the distribution of pupil scale scores that may be regarded as true variance, and not due to the unreliability of the instrument (Hoyt, 1941). Listing of scale items and respective scale reliability are in Appendix A.

[5] The items within each factor and factor loading are presented in Appendix B.

Table 1

CHARACTERISTICS OF SCHOOLS SELECTED:
RACE, ACHIEVEMENT LEVEL, AND N

School	Race	SES	Achievement Level	N	Percent White
01	White	High - 55.1	High - 59.6	140	85
02	White	High - 55.2	Low - 48.1	173	100.0
03	White	High - 58.2	High - 54.4	224	100.0
04	White	High - 54.9	Low - 47.8	202	100.0
05	White	High - 50.1	High - 58.0	88	100.0
06	White	High - 49.4	Low - 43.6	67	97.7
07	White	Low - 43.2	High - 56.7	104	100.0
08	White	Low - 44.9	Low - 44.6	88	100.00
09	White	Low - 46.7	High - 55.1	151	95.1
10	White	Low - 46.8	Low - 43.7	81	95.1
11	Black	High- 61.3	High - 55.1	276	30.0
12	Black	High - 52.9	Low - 47.2	406	01.0
13[a]	Black	High - 50.0	High - 51.8	-	-
14	Black	High - 49.2	Low - 37.3	149	00.5
15[b]	Black	Low - 43.8	High - 47.2	-	-
16	Black	Low - 46.7	Low - 38.0	105	13.8
17	Black	Low - 47.0	High - 49.6	105	09.5
18	Black	Low - 46.7	Low - 39.6	384	05.3

[a] - Data collection permission was denied.

[b] - Dropped from analysis because of design restrictions

TABLE 2

CLASSIFICATION OF SCHOOLS
SELECTED FOR STUDY

Social Class and Racial Composition	Quality of School Performance: High Mean Level of Achievement	Quality of School Performance: Low Mean Level of Achievement
White[a] High SES	3	3
Black[a] High SES	1	2
White[a] Low SES	2	2
Black[a] Low SES	1	2

[a]=Predominant 70% or greater

TABLE 3

CLIMATE VARIABLE COMBINATIONS FOR MULTIVARIATE ANALYSIS

Variable Group A	Variable Group B	Variable Group C
Reported student press for competition	Perceived peer expectations and evaluations	Student perceived present evaluations-expectations
Importance of self-identity student	Perceived teacher expectations and evaluations	Student perceived schools academic norms
Academic norms	Perceived parent expectations and evaluations	Student reported sense of futility
Sense of control	Perceived principal expectations and evaluations	Student perceived future evaluations-expectations
Reported teacher press for competition	Self-concept of academic ability	

TABLE 4

THREE FACTOR INTERACTIONS OR SECOND-ORDER INTERACTIONS
(RACE X ACHIEVEMENT X SOCIOECONOMIC STATUS)

Variable group	Multivariate F value	Degrees of freedom	P less than
A	1.5514	5,4	
B	.4151	5,4	
C	1.2471	4,5	

* $P \leq .05$

** $P \leq .01$

TABLE 5

Two Factor Interactions or First-Order Interactions

Variable Group	Multivariate F Value	Degrees of Freedom	P less than
Achievement by SES Interaction			
Group A	.9614	5,4	
Group B	.8033	5,4	
Group C	.6967	4,5	
Race by Achievement Level Interaction			
Group A	1.2945	5,4	
Group B	1.0656	5,4	
Group C	.5365	4,5	
Race by Socioeconomic Status Interaction			
Group A	1.7856	5,4	
Group B	.5226	5,4	
Group C	.5574	4,5	

* $P < .05$

** $P < .01$

TABLE 6

RACE MAIN EFFECT
(DIFFERENCES BETWEEN WHITE AND BLACK SCHOOLS)

Variable group	Multivariate F value	Degrees of Freedom	P less than
A	26.7755	5,4	**
B	5.9188	5,4	*
C	18.7471	4,5	**

* $p \leq .05$
** $p \leq .01$

TABLE 7

UNIVARIATE F - RATIO FOR VARIABLE GROUP A
(DIFFERENCE BETWEEN WHITE AND BLACK SCHOOLS)

Variables	Between mean squared	Univariate F	P less than
Reported students press for competition	2.6481	.6962	
Importance of Self-identity student	19.5054	1.3815	
Academic norms	.7809	.0733	
Sense of control	84.5975	4.6653	
Reported Teacher press for competition	157.4478	30.9359	**

* $P \leq .05$

** $P \leq .01$

TABLE 8

UNIVARIATE F - RATIO FOR VARIABLE GROUP B
(DIFFERENCE BETWEEN WHITE AND BLACK SCHOOLS)

Variables	Between mean squared	Univariate F	P less than
Perceived peer expectations and evaluations	24.5824	5.3084	*
Self-concept of academic ability	56.0087	19.6642	**
Perceived teacher expectations and evaluations	21.2713	5.7801	*
Perceived parent expectations and evaluations	13.1602	2.6905	
Perceived principal expectations and evaluations	5.3910	.3069	

*P $\leq$ .05 ** P $\leq$ .01

TABLE 9

UNIVARIATE F - RATIO FOR VARIABLE GROUP C
(DIFFERENCE BETWEEN WHITE AND BLACK SCHOOLS)

Variables	Between mean squared	Univariate F	P less than
Student perceived present evaluations-expectations	.6050	26.2662	**
Student Perceived school academic norms	.0481	2.0923	
Student reported sense of futility	1.6493	23.1865	**
Student perceived future evaluations-expectations	.0088	.1823	

* $P \leq .05$ ** $P \leq .01$

TABLE 10

VARIABLE MEANS OF RACE AND LEAST SQUARES
ESTIMATED EFFECTS OF SIGNIFICANT UNIVARIATES

Scales	White school scale means	Black school scale means	Estimated effects
Self-concept of academic ability	73.45	77.33	-4.01
Perceived peer expectations and evaluations	78.70	81.26	-3.17
Reported teacher press for competition	66.51	72.98	-5.95
Perceived teacher expectations and evaluations	80.36	82.75	-2.75
Factors	**White school factor score means**	**Black school factor score means**	**Estimated effects**
Student perceived present evaluations-expectations	.0682610	-.3333958	.381355
Student reported sense of futility	-.5139222	+.1497310	-.571806

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ABSTRACT

Grant Park Primary School is located in a small neighborhood where most residents are at the poverty level. The primary goals were to provide an educational program which would meet the needs of the pupils and would correct academic deficiencies in reading. This goal was supported by the following: (1) to provide an environment in which each pupil had the opportunity to learn and to learn how to learn; (2) to implement a reading program which met the needs of each pupil; and (3) to involve parents in the school. The Comprehensive Instructional Program focused on diagnostic teaching of reading in grades 1-3. Grant Park has been involved in pilot testing of two units of the Comprehensive Career Education Model Program, a national model under development by the Center for Vocational and Technical Education at the Ohio State University in cooperation with six local education agencies. The Follow Through Program is a national project which has been incorporated in the instructional program at Grant Park, one grade per year over the past four years. The Atlanta Comprehensive Day Care Program is funded under Title IV-A of the 1967 Amendment to the Social Security Act. Grant Park was funded for a preschool unit of 20 and an extended day program of 32. The program was staffed by a lead teacher, group leader, and two aides. (Author/JM)

RESEARCH AND DEVELOPMENT REPORT

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THE INTERDEPENDENT LEARNING MODEL AND ACHIEVEMENT

GRANT PARK PRIMARY SCHOOL 1972-73

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I. INTRODUCTION

Grant Park Primary School is located in the southeast area of Atlanta in a neighborhood known as Cabbagetown. It is a small neighborhood where most residents are at the poverty level. Forty per cent of the residents are apartment dwellers, 30 per cent own their own home, and 30 per cent are renters of single-family units. The area is surrounded by industrial firms, particularly trucking and a large textile mill. The mill is its largest employer of residents of this area. The school enrollment for 1972-73 school year was 175. The mobility index was high at .51. This was due to a large number of families who moved out of the area and then returned at a later date. The school qualified because of income levels for funds and services from special projects to help the school meet the needs of the pupils in the community. These included: (1) the Comprehensive Instructional Program (CIP), (2) Comprehensive Career Education Model Program (CCEM), (3) Follow Through Program, and (4) Title IV-A Comprehensive Child Day Care Program. These resources were used to create and sustain activities designed to help in educationally deprived areas.

II. NEEDS OF THE PUPILS

The needs of the pupils were identified and determined by the principal and faculty at the school. The needs were as follows:

A. To improve the sequential development of basic reading skills.

B. To develop adequate oral, listening, and writing skills.

C. To develop an awareness of the pupils own strengths and weaknesses and gain more self-acceptance.

D. To have more successful experiences.

E. To have parents more closely involved in school activities.

F. To have health needs diagnosed and treated.

G. To develop skills for independent learning.

III. GOALS

The primary goals at Grant Park Primary School were to provide an educational program which would meet the needs of the pupils and would correct academic deficiences in reading. This goal is supported by the following:

A. To provide an environment in which each pupil had the opportunity to learn and to learn how to learn.

B. To implement a reading program which met the needs of each pupil.

C. To involve parents in the school programs and activities by giving them opportunities to observe, plan, and participate in school functions.

IV. BEHAVIORAL OBJECTIVES

The following objectives were formulated to evaluate the extent to which the school is meeting the needs of the pupils and the goals of the school program. The objectives were:

A. Pupils in kindergarten will make an average gain of at least ten levels in the Direct Approach to Decoding (DAD) Program by the end of the school year.

B. Pupils in grades one and two will make an average gain of at least twenty levels in the Direct Approach to Decoding (DAD) Program by the end of the school year.

C. Pupils in grade three will make an average gain of at least thirty levels in the Direct Approach to Decoding (DAD) Program by the end of the school year.

V. CRITICAL VARIABLES

The critical variables which were observed and measured to reflect the desired changes were as follows:

A. Parental involvement.

B. Health care.

C. Reading skills

1. Decoding
2. Word knowledge
3. Comprehension
4. Word analysis.

D. Attitude

1. Toward school
2. Toward family
3. Toward peers.

VI. SUPPORTIVE PROGRAMS

The supporting projects as well as existing educational programs were directed toward satisfying the identified needs. At Grant Park Primary School the supportive projects were funded by the Comprehensive Instructional Program (CIP), the Comprehensive Career Education Model Program (CCEM), the Follow Through Program, and the Title IV-A Comprehensive Child Day Care Program.

A. Comprehensive Instructional Program

The Comprehensive Instructional Program (CIP) focused on diagnostic teaching of reading in grades one through three. Improvement of educational opportunities is the main purpose of CIP. Pupils are given informal group tests of selected reading skills at six-week intervals. These diagnostic tests give the teachers periodic informal evaluations of pupils' strengths and weaknesses. A resource teacher from the Area Office assists the faculty in using the program. The objective was for each pupil to gain one month for each month of instruction.

B. Comprehensive Career Education Model Program

Comprehensive Career Education Model (CCEM) Program is a national model under development by the Center for Vocational and Technical Education at the Ohio State University in cooperation with six local education agencies. The principle underlying this program is that the school is responsible for equipping pupils to earn a living in a personally satisfying career field. The CCEM curriculum consists of instructional units which have been jointly created and refined by school community personnel. The curriculum units are pilot and field tested in the process of refinement and revision. Grant Park Primary has been involved in both procedures. Grades one and two have pilot tested units, C1 and C2, respectively, These units are entitled "Officer Friendly." Four units have been field tested. Unit C-76 "Becoming Aware of Needs of Responsibilities" in the kindergarten. Unit C-75 "Economic Education" in the first grade. Unit C-94 "Activities, Roles, and Occupations" in the second grade and Unit C-54 "Economic Education" in two third grade classrooms.

C. Follow Through Program

The Follow Through Program is a national project which has been incorporated in the instructional program at Grant Park Primary School, one grade per year over the past four years. Grant Park Primary School is one of six schools in the Atlanta Public School System participating in the program. There is no national model for the program. Each community working with a sponsor develops a model suited to its own need. The Institute for Developmental Studies of New York University is a sponsor of the Atlanta Public School System. The model used is the Interdependent Learning Model (ILM) in which games are developed for teaching one or more objectives. These games provide immediate feedback to the pupil on his performance. Follow Through instructional methods are integrated into the total school program at Grant Park Primary School. Interdependent Learning Model is a model for classroom management and teaching. Emphasis is placed on language development through the use of small groups. The Direct Approach to Decoding (DAD) Program is used to teach reading skills with emphasis on phonics. Some Follow Through services were provided on a part-time basis. A communications

team consisting of a speech, music, physical education, and art teacher work with teachers, aides, and children within the school. The units this team develops at various grade levels are taught during the year. Medical and dental care is made available for each pupil and psychological services are available when needed. A health aide visits the school twice each week. Once a year parents are invited to have lunch with their children. A Program Assistant coordinates the Follow Through Program at the local school. She is aided by a parent assistant who performs clerical duties. Parent and community involvement is the key element in the Follow Through Program. The parent workers endeavored to involve parents in their children's education by demonstrating educational games suggested by the teacher for the parents to use with their children. They also attempt to get community members involved in school activities. The Parent assistant and parent workers all have children in the school. In addition to these personnel the Follow Through Program provides an aide for each classroom who functions as a team with the teacher and helps with instruction. Eight classroom aides were used in the past year.

D. Title IV-A

The Atlanta Comprehensive Child Day Care Program is funded under Title IV-A of the 1967 Amendment to the Social Security Act. Its purpose is to provide appropriate day care for preschool children and for school-age children in an extended day program before and after school. Grant Park Primary School was funded for a preschool unit of 20 and an extended day program of 32. The program was staffed by a lead teacher, group leader and two aides. The preschool program goals were to provide educationally directed services to children of working mothers and to prepare the children for kindergarten and first grade. The extended day program was directed toward the goal of providing enrichment and day care services before and after school.

VII. MANAGEMENT AND CONTROL

The teacher-pupil ratio at Grant Park Primary School in 1972-73 was one to ninteen. There were eight regular classroom teachers, two on each grade level. Three itinerant teachers also served the school. These teachers offered instruction in music, speech, and hearing. Pupils in grades kindergarten through third were served.

Instructional Organization

All classes were self-contained with a small degree of exchange of pupils between classes. Emphasis was placed on individualized instruction in all grade levels, and emphasis was placed on relationship of special programs with the general school program to achieve the objectives that had been set.

VIII. PROCESS

Instructional

The Direct Approach to Decoding (DAD) Program was based directly on a program sponsor as a research project directed by the late Dr. Lassar Gatkin and developed by Dr. Ellis Richardson, presently Counselor of New York State Department of Mental Health. The New York State Department of Mental Hygiene supported a project to study extension of the original work upon which the program was in its beginning based. It was called PAT-1 (Performance Aids in Teaching, 1969-70 in the Follow Through Classes). It consisted of 60 lessons in the form of index cards. The development of the PAT program has been a continuing process. Through information from teachers and periodic conferences with consultants, numerous revisions have been made to strengthen the program. The program has been in use for four years. There are presently five chapters of the DAD program. Chapter 1 consists of initial consonants and short vowell sounds and contains 24 levels. Chapter 2 consists of long vowel sounds and contains 10 levels. Chapter 3 consists of consonant blends and some diagraphs and contains nine levels. Chapter 4 consists of word endings and contains nine levels. Chapter 5 consists of vowels, dipthongs, and contains ten levels. The lessons are presented in sequence levels on index cards.

Directions or guides for teaching are contained in notebook form and lend themselves easily to additions or deletions. DAD is a phonetic approach to teaching of reading centered around development of behaviors of reading skills. The program is structured in sequence and the children are encouraged to progress at their own rates.

Special Activities

In addition to the supportive programs and personnel previously covered, examples of activities used to achieve the goals and behavioral objectives are the following:

A. Family Night

Two nights during the school year are set aside as family night. At these times parents are invited to the school for a social hour in which they can visit with the teachers and meet other community members. Families are served either supper or refreshments. Fathers are especially encouraged to attend.

B. Talent Show

This activity is a special part of the spring family night. Talent from parents and staff are solicited. The Community Staff Association, comparable to the Parent-Teacher Association (PTA) sponsors the activity.

C. Halloween and Christmas Programs

These days are set aside for all classes to share their learnings. Assemblies are held during the school day. Parents and community are invited to attend.

D. Workshops

The community involvement program concentrated on consumer education, home-making, and family planning workshops. An annual retreat is held for parents and the community involvement team to develop better understanding of all aspects of parental and community cooperation.

E. May Day

May Day is annual event held on May 1. Parents and community members are invited. All classes in the school participate by sharing some special activity, such as song, dance, or gymnastics.

IX. EVALUATION PLAN

Programs at Grant Park Primary were evaluated on the basis of goal achievement and behavioral objectives obtained. Plan for evaluation was as follows:

Instruments

A. Direct Approach to Decoding (DAD) Program records of pupil progress.

B. Phonetic Skills Test (PST).

C. Iowa Tests of Basic Skills (ITBS) was used to measure posttest levels.

D. Self-Appraisal Inventory (SAI) was used to measure attitude changes.

Methodology

Evaluation of the accomplishments for the 1972-73 school year took four approaches:

A. Evaluation of behavioral objectives and supportive programs.

B. A reveiw of test performance.

C. An analysis of achievement quotients.

D. Cost effectiveness.

Included will be comparisons of scores in reading against national norms and city-wide norms and frequencies in grade level posttest scores.

X. FINDINGS

Evaluation of Behavioral Objectives

A. Pupils in kindergarten will make an average gain of at least ten levels in the Direct Approach to Decoding (DAD) Program by the end of the school year. Table 1 shows the gains that were made in each grade on the DAD program. In kindergarten, the mean gain was 9.96 levels. The objective was reached. However, only 38 per cent of pupils gained 10 levels or more.

B. Pupils in grades one and two will make an average gain of at least twenty levels in the Direct Approach to Decoding (DAD) Program by the end of the school year. Table 1 shows that the mean gain for the first grade was 25.45, with seventy-one per cent of the pupils achieving the twenty-level gain. The second grade pupils had a mean gain of 28.05 with eighty-one per cent of the pupils gaining twenty levels. The objective was met.

C. Pupils in grade three will make an average gain of at least thirty levels in the Direct Approach to Decoding (DAD) program by the end of the school year. The mean gain for the third grade was 39.78 with eighty per cent of the pupils gaining at least thirty levels. This met the objective as it was stated.

Evaluation of Supportive Programs

A. Comprehensive Instructional Program

The objective of the Comprehensive Instructional Program (CIP) was for each pupil to gain one month for each month of instruction. Because no pretest and posttests were given this year it is not possible to evaluate this program.

B. Comprehensive Career Education Model Program

The Comprehensive Career Education Model (CCEM) program was designed to test the effectiveness of the units used. No final evaluation has been made on these units at the present time.

TABLE 1

GAINS BY GRADE ON THE DIRECT APPROACH
TO *DECODING*

Levels Gained	Grade	Total Number	Number Achieving Level	Per Cent	Pretest Mean	Posttest Mean	Mean Gain
At Least 10	K	32	12	38	1.13	11.09	9.96
At Least 20	1	45	32	71	1.71	27.16	25.45
	2	42	34	81	6.71	34.76	28.05
At Least 30	3	40	32	80	14.25	54.03	39.78

C. Follow Through Program

The specific objectives for the Follow Through program are as follows:

1. Phonic Skills

The pupils will increase their competence in phonic skills so that they will achieve the following raw scores on the Phonic Skills Test (PST) posttest: kindergarten 19, grade one 31, grade two 43, and grade three 61. Table 2 shows the results of the PST posttest. The mean raw score for kindergarten was 23.6, for grade one it was 51.7, for grade two it was 74.4, and for grade three it was 80.9. The mean scores exceeded the objective in all cases.

TABLE 2

PHONIC SKILLS PERFORMANCE
1972-73

Subtest	Mean Raw Scores			
	Kindergarten	Grade 1	Grade 2	Grade 3
Letter Sounds	4.9	9.1	5.0	9.8
Decoding	3.8	9.6	17.8	20.4
Auditory Blending	11.9	22.9	26.7	27.6
Oral Reading	3.1	10.1	10.4	23.1
Total	23.6	51.7	74.4	80.9
Expected Raw Score	19.0	31.0	43.0	61.0

2. Reading and Mathematics

The pupils will achieve the projected level on the Iowa Tests of Basic Skills (ITBS) as defined by the pupil achievement study conducted by the Division of Research and Development. Table 3 shows a comparison of scores for first, second, and third grade pupils participating in the Follow Through Program. In all cases the actual scores were behind predicted scores in the composite test results. An analysis of variance was calculated on the various groupings of Follow Through pupils and it was found that there was no significant difference in the scores among children who had had Follow Through for various periods of time. The conclusion drawn is that Follow Through made no difference in the achievement scores of the pupils participating in the program.

3. Self-Concepts

The Follow Through pupils will demonstrate positive self-concepts on the Self-Appraisal Inventory (SAI). Table 4 shows the results of the SAI, and against a total maximum score of forty all grades were on the positive side in self-concepts. Therefore, the objective was reached.

4. Medical

Each eligible Follow Through child will receive medical and dental checkups during the year and when indicated additional treatment. Individual medical records in the form of a survey checklist will be kept for each child. Table 5 shows the data on health services as performed in Follow Through. Physical examinations were given to all children in September and December.

5. Psychological Services

Psychological services will be made available to all eligible pupils as needed. Referrals to psychologists will be made by teachers, social workers, or Follow Through staff when the need is observed, so that the reason for referral will be eliminated. No staff psychological services were provided. Referrals were made to the area office and records were maintained there. Specific data are not available.

TABLE 3

A COMPARISON OF IOWA TESTS OF BASIC SKILLS SCORES FOR FIRST, SECOND, AND THIRD GRADE PUPILS PARTICIPATING IN THE FOLLOW THROUGH PROGRAM

Grade and Levels at Which Follow Through Administered	N	Grade Equivalent	Predicted Score	National Norm	Deviation From Predicted Score	Deviation From National Norm
Grade 1						
Follow Through in Grade 1 Only						
Reading	15	1.5	---	---	---	---
Mathematics	15	1.6	---	---	---	---
Composite Test	14	1.6	---	---	---	---
Follow Through in K-1						
Reading	29	1.7	---	---	---	---
Mathematics	27	1.6	---	---	---	---
Composite Test	26	1.5	---	---	---	---
Grade 2						
Follow Through in Grade 2 Only						
Reading	4	1.9	2.1	2.7	-0.2	-0.8
Mathematics	4	2.0	2.1	2.6	-0.1	-0.6
Composite Test	4	2.0	2.2	2.6	-0.2	-0.4
Follow Through in Grades 1 and 2						
Reading	10	2.0	2.1	2.7	-0.1	-0.7
Mathematics	13	2.6	2.1	2.6	0.5	0.0
Composite Test	10	1.9	2.2	2.6	-0.3	-0.7
Follow Through in Grades K-2						
Reading	26	2.1	2.1	2.7	0.0	-0.6
Mathematics	26	2.0	2.1	2.6	-0.1	-0.6
Composite Test	25	2.0	2.2	2.6	-0.2	-0.6

TABLE 3 (Cont'd)

Grade and Levels at Which Follow Through Administered	N	Grade Equivalent	Predicted Score	National Norm	Deviation From Predicted Score	Deviation From National Norm
Grade 3						
Follow Through in Grade 3 Only						
Reading	7	2.7	2.6	3.8	0.1	-1.1
Mathematics	7	2.5	2.7	3.7	-0.2	-1.2
Composite Test	7	2.5	2.7	3.7	-0.2	-1.2
Follow Through in Grades 2 and 3						
Reading	6	2.7	2.6	3.8	0.1	-1.1
Mathematics	6	2.9	2.7	3.7	0.2	-0.8
Composite Test	6	2.7	2.7	3.7	0.0	-1.0
Follow Through in Grades 1-3						
Reading	6	2.6	2.6	3.8	0.0	1.2
Mathematics	6	3.0	2.7	3.7	0.3	-0.7
Composite Test	6	2.7	2.7	3.7	0.0	-1.0
Follow Through in Grades K-3						
Reading	23	2.7	2.6	3.8	0.1	-1.1
Mathematics	23	2.7	2.7	3.7	0.0	-1.0
Composite Test	23	2.6	2.7	3.7	-0.1	-1.1

TABLE 4

SELF-APPRAISAL INVENTORY -- FOLLOW THROUGH PUPILS
1972-73

Subtest	Peer Maximum Score Equals 13		Family Maximum Score Equals 6		School Maximum Score Equals 12		General Maximum Score Equals 9		Total Maximum Score Equals 40	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Kindergarten (N=10)	6.8	1.5	2.8	0.6	8.0	2.1	5.9	1.2	23.5	3.9
First Grade (N=10)	7.2	1.7	3.5	3.5	7.7	2.1	6.2	1.3	24.6	4.0
Second Grade (N=10)	7.1	2.3	2.1	1.3	7.7	2.7	7.1	0.7	24.0	5.7
Third Grade (N=10)	9.0	1.6	3.0	0.9	9.4	1.6	7.6	0.8	29.0	4.0

TABLE 5

FOLLOW THROUGH HEALTH SERVICE DATA
1972-73

	Number of Pupils
Immunization	
Complete	171
Incomplete	27
Hematocrits	58
Hearing Tests	75
Vision Tests	159
Urinalysis	168
Medical Examinations	41
Dental Examinations	141
Height and Weight	197
TB Tests	97

6. Parent Involvement

An increased number of parents will participate in parent meetings, classroom visitation, and in parent volunteer groups during the 1972-73 school year as measured by a comparison of records kept by the Follow Through personnel. Table 6 shows the number of home visits made by Follow Through staff. Table 7 shows the amount of parent participation that took place in the program. Records were kept from January, 1973, through May, 1973.

D. Title IV-A

The purpose of Title IV-A was to provide appropriate day care services for preschool children and for school-age children in an extended day program before and after school. Grant Park Primary School was funded for a preschool unit of twenty and an extended day program of thirty-two. The program did not start until January so it was not possible to do sufficient testing to evaluate the progress of the program. However, the staff maintained the full allocation of pupils in both programs and provided a necessary service to the community served by Grant Park Primary School.

TABLE 6

FOLLOW THROUGH HOME VISITATION
1972-73

Number Active Follow Through Families at Beginning of School Year	106
Number Active Families at Year End	113
Number Families Visited During the Year	103
Number Home Visits Made During the Year	204
Average Number of Visits Per Family	1.9
Percentage of Families Visited	97.2

TABLE 7

FOLLOW THROUGH PARENT PARTICIPATION

Number of Parents	113
Number of Participating	86
Percentage Participating	76.1
Folunteer Hours*	
Classroom	7
Health	64
Field Trips	0
Other	1
Total	72

*Records were kept from January 3, 1973 through May 25, 1973.

Evaluation of Test Results

Table 8 compares test scores averages for each grade to national and city-wide norms. All scores were below both city-wide and national norms. The first grade however, was only one month behind city-wide norms in mathematics and composite scores. It is also apparent from Table 8 that corresponding to an increase in grade level was an increase in the amount that average grade scores deviated negatively from national norms.

TABLE 8

COMPARISON OF TEST SCORES TO NATIONAL AND CITY-WIDE NORMS

	National Norms	City-Wide Norms	Test Score	Comparisons: National Norms	Comparisons: City-Wide Norms
Grade 1					
Reading	1.9	1.6	1.4	-0.5	-0.2
Mathematics	1.6	1.5	1.4	-0.2	-0.1
Composite	1.7	1.5	1.4	-0.3	-0.1
Grade 2					
Reading	2.7	2.1	1.9	-0.8	-0.2
Mathematics	2.6	2.3	1.8	-0.8	-0.5
Composite	2.6	2.2	1.8	-0.8	-0.4
Grade 3					
Reading	3.8	2.8	2.5	-1.3	-0.3
Mathematics	3.7	2.8	2.5	-1.2	-0.3
Composite	3.7	2.9	2.5	-1.2	-0.4

The percentage of pupils scoring within certain limits of national norms is tabulated in Table 9. It can be seen that more than one-half of the first grade pupils were no more than two months behind national norms in mathematics. In contrast, more than one-half of the second grade pupils were between 0.3 and 0.8 years behind national norms, and more than one-half of the third grade pupils were between 0.9 and 1.9 years behind national norms. Thus, as noted above, there was a consistent and increasing progression in the extent to which pupils fell behind national norms. A similar pattern developed for reading test scores while one-half of the first grade pupils were 0.3 to 0.8 years behind national norms. Approximately one-half of the second and third grade pupils were between 0.9 and 1.9 years behind. Table 9 also indicates that reading and mathematics scores were on an equivalent level for second grade and reading scores were less than three months behind mathematics scores for first and third grades. Therefore, one may conclude that on the average there was no marked discrimination between mathematics and reading achievement at this school.

TABLE 9

PER CENT OF PUPILS SCORING WITHIN CERTAIN LEVELS OF NATIONAL NORMS

	More Than 2.0 Years Behind	0.9 to 1.9 Years Behind	0.3 to 0.8 Years Behind	Within 0.2 Years Behind, at or Above
Grade 1				
Reading	0	5	52	43
Mathematics	0	5	37	58
Composite	0	2	58	40
Grade 2				
Reading	0	48	25	27
Mathematics	0	26	56	18
Composite	0	41	36	23
Grade 3				
Reading	7	55	36	2
Mathematics	5	57	24	14
Composite	0	78	20	2

Evaluation of the Predicted Achievement Quotient and National Achievement Quotient

Due to certain situational factors pupils in a particular school may or may not be expected to attain a level of test performance comparable to national norms. In order to assess test performance within the context of these factors, a predicted level of test performance was computed by means of a previously derived regression equation which utilized the following six factors as predictor variables: entry knowledge of pupils, economic levels of families, attendance of pupils, class size, stability of school enrollment, and extent of pupil failures. The ratio of obtained test scores to the predicted

test scores yields a predicted achievement quotient. An index of 100 would indicate that on the average pupils exactly achieved the predicted level of performance. Index scores above or below 100 would indicate the extent to which pupils exceeded or failed to meet the predicted level. Analysis of test results computed on the Iowa Tests of Basic Skills (ITBS) indicated that the level of performance for Grant Park Primary School did not meet the predicted achievement quotient. That is the average test score did not attain that level of performance predicted for the school. Table 10 compares reading, mathematics, and composite test scores for each grade to the predicted level. The index of 115 for 1972 exceeded the predicted achievement quotient. Therefore, the 1973 index represents a decrease in the extent to which these scores met the prespecified standards.

The index of national achievement quotient referred to the extent to which test scores compared to national norms and was computed by forming the ratio of obtained test scores to the national average. Analysis of test results indicated that the level of achievment did not meet the national achievement quotient. That is, on the average pupils did not perform as well as the national average. Reading, mathematics, and composite scores for each grade are compared to the national achievement quotient in Table 10. The 1972 index was 74 compared to 67 in 1973. This indicates that the average level of school performance was lower than compared to national norms. In summary test scores at Grant Park Primary School did not meet either the predicted achievement quotient or the national achievement quotient. Test scores were not as high as predicted. Neither did they compare favorably with the national norms.

TABLE 10

IOWA TESTS OF BASIC SKILLS
APRIL, 1973

Grade	Grade Equivalent Score			Summary Indices 1973		Summary Indices 1972	
	Actual	Predicted	National Norm	Predicted Achievement Quotient	National Achievement Quotient	Predicted Achievement Quotient	National Achievement Quotient
			READING TEST DATA				
2	1.9	2.1	2.7	90	69	133	59
3	2.5	2.6	3.8	94	66	140	73
			Average	92	67	137	66
			MATHEMATICS TEST DATA				
2	1.8	2.1	2.6	85	69	133	85
3	2.5	2.7	3.7	91	68	50	78
			Average	88	68	92	82
			COMPOSITE TEST DATA				
2	1.8	2.2	2.6	83	68	133	72
3	2.5	2.7	3.7	91	67	95	76
			Average	87	67	115	74

XI. COST ANALYSIS

The data presented in Table 11 shows the relative cost for a one-unit of predicted achievement quotient. In order to compute these costs, expenditures were taken from the June, 1973 General Funds Report and the June, 1973 Trust and Agency Report. From these figures estimates were made of the per pupil cost from general funds and compensatory funds. These data also show the cost in compensatory funds for each unit of projected quotient. According to these data the cost for one unit of projected achievement quotient was not related to the funds expended. The funds expended in grades two and three were high with very low results shown as a result of very high expenditures, $1,431 per pupil.

TABLE 11

COST ANALYSIS
AVERAGE DAILY ATTENDANCE
(PREKDG. - 3 -- N = 179)

	Grades					
	Prekdg.	Kdg.	First	Second	Third	Average
Average Daily Attendance	20	32	44	41	42	36
Per Pupil Cost						
A. General Funds						
1. Regular						
a. Salary	$ 820.19	$ 820.19	$ 820.19	$ 820.19	$ 820.19	$ 820.19
b. Nonsalary	27.95	27.95	27.95	27.95	27.95	27.95
c. Total	$ 848.14	$ 848.14	$ 848.14	$ 848.14	$ 848.14	$ 848.14
2. CIP						
a. Salary	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-
b. Nonsalary	-0-	-0-	11.30	11.30	11.30	8.02
c. Total	$ -0-	$ -0-	$ 11.30	$ 11.30	$ 11.30	$ 8.02
3. Total General Funds						
a. Salary	$ 820.19	$ 820.19	$ 820.19	$ 820.19	$ 820.19	$ 820.19
b. Nonsalary	27.95	27.95	39.25	39.25	39.25	35.97
c. Total	$ 848.14	$ 848.14	$ 859.44	$ 859.44	$ 859.44	$ 856.16
B. Compensatory Funds						
1. Bankhead Center IV-A						
a. Salary	$ 14.17	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 2.37
b. Nonsalary	-0-	-0-	-0-	-0-	-0-	-0-
c. Total	$ 14.17	$ 0.89	$ 0.89	$ 0.90	$ 0.89	$ 2.37

TABLE 11 (Cont'd)

	Grades					
	Prekdg.	Kdg.	First	Second	Third	Average
2. Smith District IV-A						
a. Salary	$ 33.60	$ 2.11	$ 2.11	$ 2.11	$ 2.11	$ 5.63
b. Nonsalary	-0-	-0-	-0-	-0-	-0-	-0-
c. Total	$ 33.60	$ 2.11	$ 2.11	$ 2.11	$ 2.11	$ 5.63
3. East Atlanta District IV-A						
a. Salary	$ 132.01	$ 8.30	$ 8.30	$ 8.30	$ 8.30	$ 22.12
b. Nonsalary	14.83	0.93	0.93	0.93	0.93	2.49
c. Total	$ 146.84	$ 9.23	$ 9.23	$ 9.23	$ 9.23	$ 24.61
4. Title IV-A Day Care						
a. Salary	$ 500 87	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 83.94
b. Nonsalary	29.92	1.88	1.88	1.88	1.88	5.01
c. Total	$ 530.79	$ 64.88	$ 64.88	$ 64.88	$ 64.88	$ 88.95
5. Follow Through Program						
a. Salary	$ -0-	$ 364.69	$ 364.69	$ 364.69	$ 364.69	$ 323.94
b. Nonsalary	-0-	92.52	92.52	92.52	92.52	82.18
c. Total	$ -0-	$ 457.21	$ 457.21	$ 457.21	$ 457.21	$ 406.12
6. Title II						
a. Salary	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-
b. Nonsalary	-0-	100.26	100.26	100.26	100.26	89.06
c. Total	$ -0-	$ 100.26	$ 100.26	$ 100.26	$ 100.26	$ 89.06
7. Title I Regular						
a. Salary	$ -0-	$ -0-	$ 51.17	$ 51.17	$ 51.17	$ 36.30
b. Nonsalary	-0-	-0-	1.47	1.47	1.47	1.04
c. Total	$ -0-	$ -0-	$ 52.64	$ 52.64	$ 52.64	$ 52.64

TABLE 11 (Cont'd)

	Grades					
	Prekdg.	Kdg.	First	Second	Third	Average
8. Title I Summer						
a. Salary	$ -0-	$ -0-	$ 12.14	$ 12.14	$ 12.14	$ 8.61
b. Nonsalary	-0-	-0-	1.08	1.08	1.08	0.76
c. Total	$ -0-	$ -0-	$ 13.22	$ 13.22	$ 13.22	$ 9.37
9. Comprehensive Career Education						
a. Salary	$ -0-	$ 0.56	$ 0.56	$ 0.56	$ 0.56	$ 0.50
b. Nonsalary	-0-	-0-	-0-	-0-	-0-	-0-
c. Total	$ -0-	$ 0.56	$ 0.56	$ 0.56	$ 0.56	$ 0.50
10. Total Compensatory Funds						
a. Salary	$ 680.65	$ 439.55	$ 502.86	$ 502.86	$ 502.86	$ 483.41
b. Nonsalary	44.75	195.59	198.14	198.14	198.14	180.54
c. Total	$ 725.40	$ 635.14	$ 701.00	$ 701.00	$ 701.00	$ 663.95
C. Total Per Pupil Cost						
1. Salary	$1,500.84	$1,259.74	$1,323.05	$1,323.05	$1,323.05	$1,303.60
2. Nonsalary	72.70	223.54	237.39	237.39	237.39	216.51
3. Total	$1,573.54	$1,483.28	$1,560.44	$1,560.44	$1,560.44	$ 1,520.11
Predicted Achievement Quotient	---	---	---	84	91	87
Cost Per Unit of Predicted Achievement Quotient						
A. General Funds	$ -0-	$ -0-	$ -0-	$ 10.35	$ 9.45	$ 9.84
B. Compensatory Funds	-0-	-0-	-0-	8.45	7.70	7.63
C. Total	$ -0-	$ -0-	$ -0-	$ 18.80	$ 17.15	$ 17.47

XII. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

A. There was no significant difference in achievement between pupils who had the Follow Through Program in previous years and pupils who did not have Follow Through exposure.

B. The Direct Approach to Decoding (DAD) objectives were met by all grades.

C. All pupils in all grades were below both national and city-wide norms.

D. The overall achievement at Grant Park Primary School did not meet national or predicted levels.

Recommendations

A. Examine the possibility that the Direct Approach to Decoding (DAD) program should be more closely integrated with other reading programs to possibly raise the overall level of achievement in reading for all pupils.

B. Examine alternative methods to teach basic reading skills in order to raise achievement levels.

C. Better use of compensatory funds should be made in order to bring the school up to city-wide norms as a minimum level.

D. Consider ways to reduce the high per pupil cost and, at the same time, improve pupil achievement.